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10/525,966	02/28/2005	Yozo Shoji	1640.1033	3180

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EXAMINER	
FLORES, LEON	

ART UNIT	PAPER NUMBER
2611	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/525,966	SHOJI ET AL.	
	Examiner	Art Unit	
	LEON FLORES	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 March 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-8* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *4 and 8* is/are allowed.

6)☒ Claim(s) *1-3 & 5-7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims (1-8) have been considered but are moot in view of the new ground(s) of rejection.

Applicant asserts that *"control information is not a reference local oscillation. The above-reproduced portion of Meidan (i.e., col. 7 lines 5-12) provides no proof that in Meidan a reference local oscillation signal is transmitted from a transmitting station, as recited in claim 1".*

The examiner respectfully disagrees. Applicant is reminded that **MPEP 2141.02** states:

A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984) In a different portion of the reference of Meidan, it does teach frequency synchronization. (See col. 7, lines 5-12 "FCCH & SCH" & col. 9, lines 60-64) And the present application is using the reference local oscillation signal in order to achieve synchronization.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. **Claims (1-3) are rejected under 35 U.S.C. 103(a) as being unpatentable over Meidan et al (hereinafter Meidan) (US Patent 5,506,863) in view of Dwyer. (US Patent 5,970,400)**

Re claim 1, Meidan discloses a frequency hopping wireless communication method for performing communications between a plurality of wireless communication terminals, each wireless communication terminal having a transmitting unit for generating a radio modulation signal by multiplying an intermediate frequency band modulation signal from an intermediate frequency band modem by a local oscillation signal, and a receiving unit for generating an intermediate frequency band demodulation signal downconverted by multiplying a radio modulation signal by a local oscillation signal, and demodulating the signal in the intermediate frequency band modem, the frequency hopping wireless communication method comprising: transmitting a reference local oscillation signal from a transmitting station (See fig. 2: 200 "base station" & col. 7, lines 5-12 "FCCH & SCH" & col. 9, lines 60-64); receiving the reference local oscillation signal from the transmitting station (See fig. 1: 100 "subscriber" & col. 8, line 18 – col. 9, line 9), amplifying (See fig. 1: 138 & col. 8, lines 8, lines 50-55) and band filtering the

received signal (It is well known in the art the use of a band filter at the front end, See US Patent 5,970,400 col. 8, lines 52-57), regenerating the reference local oscillation signal by an injection synchronous oscillator or an amplifier in each of the wireless communication terminals. (See fig. 1: 142, 141 & col. 8, lines 43-50 & fig. 3)

But the reference of Meidan fails to explicitly teach performing mutual communications using the transmission signal which is demodulated in each receiving wireless communication terminal of the plurality of wireless communication terminals using the regenerated reference local oscillation signal.

However, the reference of Meidan does suggest performing mutual communications using the transmission signal which is demodulated (124) in each receiving wireless communication terminal of the plurality of wireless communication terminals ("subscriber units") using the regenerated reference local oscillation. (142, 141, col. 8, lines 43-50, col. 10, lines 45-49, col. 9, lines 38-45)

Therefore, it would have been obvious to one of ordinary skills in the art to incorporate these features into the system of Prior art, as modified by Meidan, for the benefit of maintaining synchronization between the base station & the subscriber units.

The reference of Meidan discloses the limitations as claimed above, except he fails to explicitly teach modulating a transmission signal in a frequency hopping system using the regenerated reference local oscillation signal.

However, Dwyer does. (See fig. 4) Dwyer discloses modulating (See col. 11, lines 24-26 "modulated carrier frequency signal") a transmission signal in a frequency hopping system (See col. 12, lines 2-4 "frequency hopping system") using the

regenerated reference local oscillation signal. (See col. 11, lines 29-45 "the timing reference signal is adjusted and sent to an oscillator to continuously adjust and improve the timing accuracy and synchronization of the oscillator to thereby improve the accuracy of the carrier frequency signal")

Therefore, taking the combined teachings of Meidan & Dwyer as a whole, it would have been obvious to one of ordinary skills in the art to incorporate this feature into the system of Meidan, in the manner as claimed and as taught by Dwyer, for the benefit of adjusting and improving the timing accuracy and synchronization of the oscillator to thereby improve the accuracy of the carrier frequency signal. (See col. 11, lines 37-41)

Re claim 2, the combination of Meidan & Dwyer further discloses a dedicated transmitting station for transmitting only the reference local oscillation signal. (In Meidan, see fig. 2: 200 "base station" & col. 7, lines 5-12 "FCCH & SCH" & col. 9, lines 60-64)

Re claim 3, the combination of Meidan & Dwyer further discloses that wherein one wireless communication terminal of the plurality of wireless communication terminals acts as a base station or a parent station, and transmits a local oscillation signal for use in the base station or the parent station together with a radio modulation signal (In Meidan, see fig. 2: 200 "base station" & col. 7, lines 5-12 "FCCH & SCH" & col. 9, lines 60-64), and each child station, which is any wireless communication

terminal of the plurality of wireless communication terminals other than the one wireless communication terminal acting as the base station or the parent station, receives the reference local oscillation signal transmitted by the base station or the parent station. (In Meidan, see fig. 1: 100 "subscriber" & col. 8, line 18 – col. 9, line 9, col. 9, lines 60-64)

5. **Claims (5-7) are rejected under 35 U.S.C. 103(a) as being unpatentable over Meidan et al. (hereinafter Meidan) (US Patent 5,506,863)**

Re claim 5, Meidan further discloses a frequency hopping wireless communication system comprising: a transmitting station for transmitting a reference local oscillation signal (See fig. 2: 200 "base station" & col. 7, lines 5-12 "FCCH & SCH" & col. 9, lines 60-64); and a plurality of wireless communication terminals ("frequency hopping system), each wireless communication terminal having: a receiving unit (See fig. 1: 100 "subscriber" & col. 8, line 18 – col. 9, line 9) that amplifies (See fig. 1: 138 & col. 8, lines 8, lines 50-55) and band filters (See fig. 1: 100 (It is well known in the art the use of a band filter at the front end, See US Patent 5,970,400 col. 8, lines 52-57) a signal received from the transmitting station to regenerate the reference local oscillation signal by an injection synchronous oscillator or an amplifier (See fig. 1: 142, 141 & col. 8, lines 43-50 & fig. 3), and generates an intermediate frequency band demodulation signal downconverted by multiplying a received radio modulation signal by the reference oscillation signal (See fig. 1: 124, 122, 120, col. 8, lines 43-50), and demodulates the intermediate frequency band demodulation signal in the intermediate frequency band modem. (See fig. 1: 124)

But the reference of Meidan fails to explicitly teach a transmitting unit that generates and transmits a radio modulation signal by multiplying an intermediate frequency band modulation signal from an intermediate frequency band modem by the reference local oscillation signal.

However, the reference of Meidan does suggest (See fig. 1: 100 "subscriber unit") a transmitting unit that generates and transmits a radio modulation signal by multiplying an intermediate frequency band modulation signal from an intermediate frequency band modem by the reference local oscillation signal. (106, 116, 141 & col. 8, lines 43-50, col. 10, lines 45-49.)

Therefore, it would have been obvious to one of ordinary skills in the art to incorporate these features into the system of Prior art, as modified by Meidan, for the benefit of maintaining synchronization between the base station & the subscriber units.

Re claim 6, Meidan further discloses one transmitting station for transmitting only the reference local oscillation signal. (In Meidan, see fig. 2: 200 "base station" & col. 7, lines 5-12 "FCCH & SCH" & col. 9, lines 60-64)

Re claim 7, Meidan further discloses that wherein one of the plurality of wireless communication terminals acts as a base station or a parent station and transmits a local oscillation signal for use in the station together with a radio modulation signal (In Meidan, see fig. 2: 200 "base station" & col. 7, lines 5-12 "FCCH & SCH" & col. 9, lines 60-64), and each child station which is any of the wireless communication terminals

other than the one wireless communication terminal acting as the base station or the parent station, receives a reference local oscillation signal transmitted by the base station or the parent station. (In Meidan, see fig. 1: 100 "subscriber" & col. 8, line 18 – col. 9, line 9, col. 9, lines 60-64)

Allowable Subject Matter

6. Claims (4 & 8) are allowed.

Contact

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEON FLORES whose telephone number is (571)270-1201. The examiner can normally be reached on Mon-Fri 7-5pm Alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/L. F./
Examiner, Art Unit 2611
November 24, 2009

/David C. Payne/

Supervisory Patent Examiner, Art Unit 2611